

Patent Claims

1. Brush sealing ring for use as a sealing element
5 between components which can move relative to one
another, in particular between a rotor and a stator
as an element which is fixed to the stator, having
an annular housing and having a multiplicity of
10 aramid fibre-based bristles which are attached
within the housing and protrude radially or axially
out of the contour of the housing and whose free end
faces form tangents with an imaginary, rotationally
symmetrical or planar face, characterized by a
combination of the following features:
- 15 A) the bristles are composed of sections (5, 6) of
strands and/or threads of aramid fibres which
are present in a wound arrangement,
B) each section (5, 6) runs in a loop shape around
a core (11) extending away from it without
20 crossing over in such a way that its two end
faces (7, 9; 8, 10) form tangents with the
same imaginary face (F) which is spaced apart
from the core (11), and
C) the sections (5, 6) are arranged around the
25 core (11) in a plurality of layers one on top
of the other and are secured in a frictionally
locking fashion with a clamping section (12).
2. Brush sealing ring according to Claim 1,
30 characterized in that the core (11) is shaped from
a metal wire with a round cross section and the
clamping section (12) is shaped from a metallic
round tube which is slotted in the longitudinal
direction.
- 35 3. Brush sealing ring according to Claim 1 or 2,

P609410/WO/1

- 9 -

characterized in that, in addition to their, essentially, radial or axial orientation, the sections (5, 6) have a directional component in the circumferential direction outside the clamping region (12).

4. Brush sealing ring according to one or more of Claims 1 to 3, characterized in that the section (5, 6) have end faces (7, 9; 8, 10) which are manufactured by mechanical cutting or shearing off, by laser beam cutting, if appropriate with water cooling ("laser microjet process"), or by means of water jet cutting.

5. Brush sealing ring according to one or more of Claims 1 to 4, characterized in that the aramid fibres which are used as bristle material correspond in their chemical and physical structure to the Kevlar, Type 49, from DuPont.

6. Brush sealing ring according to one or more of Claims 1 to 5, characterized in that it is configured for sealing predominantly gaseous fluids, including hydrogen.

7. Brush sealing ring according to one or more of Claims 1 to 6, characterized in that it is configured for use in turbo machines of all kinds as well as in electric generators.

ADD B1)